

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listing of the claims in the application:

LISTING OF THE CLAIMS:

Claim 1. (amended) A recombinant plant viral vector comprising a polynucleotide, which polynucleotide comprises: an IRES nucleotide sequence, an ORF encoding a peptide of interest, and an ORF encoding a viral protein, wherein the IRES nucleotide sequence is located between the peptide of interest ORF and the viral protein ORF and wherein the IRES is heterologous to the plant viral vector.

Claim 2. (previously presented) The vector according to Claim 1 wherein a promoter 5' to the IRES sequence, the peptide of interest ORF, and the viral protein ORF promotes transcription of a mRNA containing said polynucleotide.

Claim 3. (previously presented) The vector according to Claim 2 wherein the IRES nucleotide sequence is a naturally occurring IRES or a fragment of a naturally occurring IRES that can direct translation of the peptide of interest ORF or the viral protein ORF

Claim 4. (previously presented) The vector according to Claim 2 wherein the IRES sequence comprises a nucleotide sequence of: SEQ ID NO: 1; or a fragment of SEQ ID NO: 1, that can direct translation of the peptide of interest ORF or the viral protein ORF.

- Claim 5. (previously presented) The vector according to claim 2 wherein the viral protein is a coat protein.
- Claim 6. (canceled)
- Claim 7. (original) A recombinant virus comprising a recombinant viral vector according to claim 5.
- Claim 8. (previously presented) A host comprising a recombinant virus according to claim 7.
- Claim 9. (original) An IRES capable of directing the expression of an internal ORF in a heterologous viral vector.
- Claim 10. (original) An IRES according to claim 9 wherein the IRES is an IRES_{cp}.
- Claim 11. (original) An IRES according to claim 10 wherein the IRES is crTMV IRES_{cp}.
- Claim 12. (amended) A viral vector construct that expresses a bicistronic mRNA comprising an ORF positioned upstream of an IRES sequence and followed by a coat protein coding sequence, wherein the IRES sequence is heterologous to the viral vector and is capable of promoting internal initiation of translation of the coat protein coding sequence.
- Claim 13. (original) A viral vector construct according to Claim 12 wherein the reporter gene encodes a native or foreign gene.
- Claim 14. (previously presented) A viral vector construct according to Claim 53 wherein the reporter gene encodes a green fluorescent protein.

Claim 15. (previously presented) A viral vector construct, comprising: a viral genome, and an IRES sequence, wherein the IRES sequence is heterologous to the viral genome, wherein the IRES sequence is downstream of a desired gene or ORF and upstream of a virus coat protein gene, wherein the IRES sequence is in the sense or antisense orientation.

Claim 16. (original) A viral vector construct according to claim 15 wherein the viral vector construct expresses a bicistronic mRNA.

Claim 17. (original) A viral vector construct according to claim 15 wherein the viral genome is the genome of potato virus X.

Claim 18. (original) A potato virus X-based viral vector construct comprising the viral vector construct according to claim 15, wherein the potato virus X-based viral vector construct gives rise to single cell infection sites.

Claim 19. (previously presented) A viral vector construct according to Claim 15 further comprising a stable stem loop structure inserted 5' of the IRES sequence.

Claim 20. (original) A viral vector construct according to claim 19 wherein the stem loop structure is immediately upstream of the IRES sequence.

Claim 21. (original) A viral vector construct according to claim 20 wherein the stem loop structure causes a reduction in the expression of the virus coat protein gene.

Claim 22. (original) A viral vector construct according to claim 21 wherein the stem loop structure interferes with direct interaction of a ribosome at the IRES sequence.

Claim 23. (previously presented) A viral vector construct according to claim 15 further comprising a stable stem loop structure inserted 3' of the IRES sequence.

Claim 24. (original) A viral vector construct according to claim 23 wherein the stem loop structure prevents expression of the virus coat protein gene.

Claim 25. (original) A viral vector construct according to claim 23 wherein the stem loop structure effectively blocks scanning ribosomes.

Claim 26. (amended) A viral vector comprising a natural or modified plant virus IRES sequence linked to the ORF encoding a protein of interest, wherein the plant virus IRES sequence directs translation of the ORF ~~and~~, wherein the protein of interest is heterologous to the viral vector and wherein the IRES sequence is heterologous to the viral vector.

Claim 27. (previously presented) A viral vector according to claim 26 wherein said IRES sequence initiates translation effectively in either sense or antisense orientation.

Claim 28. (previously presented) A viral vector according to claim 27 wherein said IRES sequence is an IRES_{cp} sequence.

Claim 29. (amended) A viral vector construct comprising the function of producing a bicistronic subgenomic RNA in which two ORFs are separated by an IRES and wherein the IRES is heterologous to the viral vector.

Claim 30. (amended) A recombinant plant viral vector construct comprising a modified IRES sequence that directs higher levels of protein expression, wherein the IRES sequence is heterologous to the viral vector.

Claim 31-37. (canceled)

Claim 38. (original) A polynucleotide comprising pIRESs-XCP.

Claim 39-52. (canceled)

Claim 53. (previously presented) A viral vector construct according to Claim 12, further comprising a reporter gene.

Claim 54. (previously presented) A recombinant or isolated polynucleotide comprising: an IRES nucleotide sequence, an ORF encoding a peptide of interest, and an ORF encoding a viral protein, wherein the IRES nucleotide sequence is located between the peptide of interest ORF and the viral protein ORF and wherein the IRES nucleotide sequence is heterologous to the viral protein ORF.

Claim 55. (previously presented) The polynucleotide of claim 54, wherein one or more of the IRES nucleotide sequence or the viral protein ORF comprises a tobamovirus nucleotide sequence.

Claim 56. (previously presented) The polynucleotide of claim 55, wherein the tobamovirus comprises crTMV